

Lost-to-follow-up in the Prevention of Mother to Child Transmission Option B+ cascade of Services in the Public Hospitals of Illubabor zone, Western Ethiopia

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Abstract

Background: World Health Organization recommends that for effectiveness of prevention of mother-to-child transmission option B+ services; mothers should retain in the prevention of mother-to-child transmission option B+ cascade of services. Ethiopia have been implementing prevention of mother-to-child transmission program since 2001 and shifted to option B+ in 2012. However the program implementation is faced with challenges of high missed opportunities and lost-to-follow up; threatening effectiveness of program. So assessing and indentifying factors affecting lost-to-follow up is important to ensure program effectiveness. **Objective:** The main objective was to determine the lost-to-follow up rate among pregnant and laboring mothers in the antepartem and intrapartem prevention of mother-to-child transmission option B+ cascade of services in public hospitals of Illubabor zone, Western Ethiopia. **Methods and Materials:** Facility based retrospective cross-sectional study design using both quantitative and qualitative data was conducted from June 10-July 10, 2014. Program document reviewed to determine the lost-to-follow up rate from September 2013 to end of the evaluation period. In-depth interview conducted with program managers, implementers and clients to identify barriers for lost-to-follow up. Quantitative data entered through epi-data 3.1 and exported to SPSS 17 for further analysis. Qualitative data analyzed through content analysis for each section of assessment and supplemented to quantitative data. **Result:** From a total of 1905 pregnant mothers visited antenatal clinic for the first time 1794(94.2%), 1826(95.9%) and 1749(91.8%) had received pre-test counseling, testing and post-test counseling services. Among whom 35(1.9%) tested positive, and 30(85.7%) initiated on antiretrovirals. Further from a total of 2332(84.1%) laboring mother with unknown status 2154(92.4%) received on-coach HCT services, 19(0.8%) tested positive and 18(94.7%) initiated on antiretroviral according to the national guideline. In addition from a total of 41 HIV+ mothers received delivery services; 39(75.6%) of infants initiated on antiretroviral and none of mother-infant pair linked to postpartum continuum of care. In general there is significant lost-to-follow up rate in the antepartem and intrapartem continuum of care services. The reason reported being inadequacy of skilled health care provider, intermittent supply of test kits and OI drugs, lack of privacy at examination rooms, long waiting time to get services and inaccessibility of services. **Conclusion:** There is a significant lost-to-follow up rate in the antepartem and intrapartem continuum of prevention of mother-to-child transmission option B+ services. So program resources should be supplied consistently, health care providers should be trained, defaulter tracing mechanism should be established and regular supportive supervision should be conducted. Moreover a due emphasis should be given to privacy of service rooms and waiting time; for the fact that program clients needs assurance of this conditions to retain in care.

Keywords: Lost-to-follow up, PMTCT option B+, Antepartem, Intrapartem

Introduction

The global target towards elimination of new HIV infection among children by 2015 incorporates 4 ambitious targets: Reducing new pediatric HIV infections by 90%, reducing HIV-associated deaths to women during pregnancy, childbirth and puerperium by 50%, and reducing mother-to-child transmission (MTCT) of HIV to less than 5% at the population level(1,2).

However these targets can be achieved if mothers and infant pair retain in the PMTCT cascade of services (WHO). In sub-Saharan Africa region; the region in which the highest burden of HIV/AIDS resided, high lost-to-follow up in the PMTCT cascade of services is observed (up to 75%). In the region 24.7 million PLWHA (of which 2.9 million children), 1.5 million new HIV infections (of which 210,000 among children) and 1.1 million AIDS related deaths in 2013 were observed(3,4).

Studies associate lost-to-follow up in PMTCT cascade of services with late antenatal attendance among pregnant mothers, low utilization of delivery services, poor follow-up from health care providers, poor defaulter tracing, inadequate supply of program resources (skilled man power, drugs and test kits) and low male partner involvement. The LTFU can also be associated with maternal characteristics (educational status), socio-economic status, quality of antenatal care and obstetrical context of delivery(5–11).

A systematic analysis undertaken on studies conducted in SSA has reported the lost-to-follow-up rate among pregnant HIV+ mothers between ANC and delivery (10.9 to 68.1%), infants within 3 months of delivery

(4.8-75%) and children after HIV testing 45.5%(10).

In Nigeria among 19,303 women entering PMTCT care during the antenatal period, 10,078 (52%) completed the entire cascade of services, including prenatal care, delivery, and at least 1 infant follow-up visit. However, of 22,180 women entering at any point along the PMTCT cascade, only 2922 (13%) infants accessed follow-up care through the recommended 18 months. The greatest loss in the PMTCT care cascade occurred before infant follow-up, with 31% of women lost to follow-up after receiving delivery care. Among mothers receiving any antenatal care, infant outcomes were unknown for 45%(12).

Ethiopia have been implementing PMTCT program since 2001 and shifted to option B+ in 2012. However the program implementation is faced with challenges of high missed opportunities and lost-to-follow up in the PMTCT cascade of services. In 2012 of those pregnant women (1,186,167) who were counseled and tested, 14,134 tested positive, of whom 9,775 received ARVs for PMTCT. Moreover in 2013 among HIV+ tested mothers; 60% didn't received ARVs prophylaxis for PMTCT. The major reason reported being poor quality of services(13).

PMTCT option B+ implementation started in public hospitals of Illubabor zone, Western Ethiopia in September 2013. However the lost-to-follow-up (LTFU) rate of mothers in the antepartem and intrapartem PMTCT cascade of services is not yet investigated. So the aim of this study is to determine LTFU among pregnant mothers from pregnancy to delivery and mother-infant pair from delivery to link to postpartum care.

Methods

Study design and setting

Facility based retrospective cross sectional study design using both quantitative and qualitative data was conducted in public hospitals of Illubabor zone, Western Ethiopia from June 2014-July 2014. Illubabor zone, one among the 18 administrative zones in Oromia region is located 600 km Western direction of Addis Ababa.

The zone comprised of a total of 2 hospitals and 66 Health centers. The hospitals named as Metu Karl hospital (referral hospital serving for 1.5 million populations) and Bedele hospital (district hospital serving for 710,000 populations). Metu Karl hospital is located in the big town of Illubabor zone, Metu and was far from capital town of Ethiopia 600km, Western direction. Whereas Bedelle hospital was located 120km Eastern direction of Metu town and 480 km Western direction of Addis Ababa.

Study population

All service documents from September 2013-July 10, 2014, 2 health care managers, 4 purposively selected health care providers in the antepartem and intrapartem continuum of care and 8 HIV+ mothers were study population for the evaluation.

Service documents reviewed include ANC registers, delivery registers, charts of HIV+ mothers and PMTCT option B+ log book. Documents were reviewed to determine the LTFU rate of program clients in the antepartem and intrapartem continuum of care.

In-depth interview conducted with health care managers, health care providers and program clients for assessing barriers for LTFU.

Data quality assurance

Trained data collectors located outside study area participated in the evaluation. Regular supervision conducted during and after data collection by supervisors. A due care given for collected data throughout analysis process.

Statistical analysis

Quantitative data entered through epi-data 3.1 and exported to SPSS 17. Then descriptive analysis conducted. Qualitative data analyzed through content analysis for each section of assessment and presented in complement to quantitative data.

Ethical consideration

Ethical approval was secured from Jimma University College of Public Health and Medical sciences Ethical clearance board. Further letter of permission and support obtained from ORHB, Illubabor ZHD and Jimma University Department of Health Service management.

Result

Lost-to-follow up in the Antepartem continuum of care:

Since September 2013 until the end of the evaluation period a total of 1905 pregnant mothers had visited ANC clinic for pregnancy follow-up services for the first time. Among whom 1150(60.4%) of them are from Metu Karl hospital and 755(39.6%) from Bedelle hospital. The mean age of the clients is 23.96 years with standard deviation of 4.84 and the mean gestational age in weeks is 26.21 with standard deviation of 6.745.

From the total of 1905 clients who has visited ANC clinic of the public hospitals 1794(94.2%), 1826(95.9%) and 1749(91.8%) had received pre-test counseling, testing and post-test counseling services according to the national guideline. Furthermore of those who has received HIV testing services 35(1.9%) tested positive, and 30(85.7%) initiated on ARV. Concerning the type of ARVs initiated 23(76.7%)

initiated on TDF+3TC+EFV (1e), 4(13.3%) initiated on AZT+3TC+NVP (1c) and 3(10%) initiated on AZT+3TC+EFV (1d).

There are clients who have received testing services without pre-test counseling 30(1.6%) and those who have received testing services but not post counseling services 75(4.1%). Initiation date of clients ranges from a day up to more than 6 months. In general there is lost-to-follow up among service clients starting from testing and counseling to initiation of ARVs and follow up in the antepartem continuum of care (**Figure 1**).

Partner testing and counseling is the other services provided to partners of pregnant mothers as part of PMTCT option B+. Concerning to partner testing and counseling; from the total of 1905 pregnant mothers who visited ANC clinic of public hospitals, only 256(13.4%) partners of mothers received HIV counseling and testing services as part of PMTCT according to the national guideline. Among whom 3(1.2%) of them tested positive and 253(98.8%) tested negative.

Lost-to-follow up Intrapartem continuum of care:

Labor and delivery ward is another unit of the hospital in which laboring mothers receive PMTCT services. Since September 2013 until end of the evaluation period a total of 2773 pregnant mothers visited the public hospitals of Illubabor zone for delivery services. Among whom 1843(66.5%) of them were from Metu Karl hospital and 930(33.5%) from Bedelle hospital. The mean age of the pregnant mothers is 24.12 years with standard deviation of 4.877.

From those pregnant mothers who received delivery services in the respective hospitals, 2332(84.1%) of them are with unknown HIV status and 441(15.9%) with known status of HIV/AIDS. Among those with unknown status 2154(92.4%) have received on-coach HCT services, 19(0.8%) tested positive and 18(94.7%) initiated on ARVs according to the national guideline. While 22 mothers are previously on ARV while visiting the labor and delivery unit. Overall 178(7.6%) clients have missed the opportunity for HCT services.

Moreover from mothers delivered in public hospitals only 31(75.6%) of infants received NVP after birth and none of mother-infant pair linked to postpartum care using referral formats.

Overall there is LTFU in the intrapartem continuum of care (birth to linkage to postpartum continuum of care) among program clients in public hospitals of Illubabor zone (**Figure 2**).

Participants of in-depth interview (Health care managers and health care providers) responded that the major reasons for LTFU includes lack of adequate trained human resource and insufficient supply of program resources like test kits.

The hospitals manager (Male, 30 years old, Metu Karl hospital) replied that.....*We fear how much we are addressing the goal of PMTCT option B+. The reason being irregular supply of test kits. As the result Partner testing and counseling service is provided erratically.*

The other in-depth interview participant (28 years old Male mid-wife nurse, Bedelle hospital) responded due to lack of skilled human resource in our hospital; there is missed opportunities among HIV+ mothers in the initiation of ARVs. Particularly at night and weekend time the problem prevail over.

The health care provider from Metu Karl hospital (Age 30, Female Mid-wife nurse) underlined lack of supportive supervision in addition to inadequacy of skilled health care provider.

Moreover HIV+ mothers also agreed with long waiting times to get services, lack of privacy of examination rooms, inaccessibility of services, shortage of supplies like OI drugs (cotrimoxazole) and poor family support as reasons for poor adherence to the program. One of the program clients from Metu Karl hospital (32 year old, Female) replied that.....I waited for more than 1 hour and 30 minutes to get services. Particularly there is problem at card room.

The other in-depth interview participant from Bedelle hospital responded lack of privacy of examination rooms and inaccessibility of services (long walking hours) as reasons for poor adherence to program.

Discussion

Effectiveness of PMTCT option B+ program is determined by good adherence of program clients in the PMTCT cascade of services(11,12). Our study finding showed that there is significant LTFU among program clients in the antepartem and intrapartem continuum of care services.

In the antepartem continuum of care; from those pregnant mothers visited the hospitals with unknown status 95.9% received HIV testing and counseling; 1.9% tested positive and but only 85.7% initiated on ARVs of tested positives. Around 15% of HIV positive mothers missed the opportunities.

Similarly in the intrapartem continuum of care 2332 laboring mothers visited delivery units with unknown status of HIV/AIDS; 2154(92.4%) received PITC service; 19(0.8%) tested positive and 18(94.7%) initiated on ARVs.

Our finding is somewhat better than studies conducted in SSA countries in which LTFU of pregnant HIV+ mothers between ANC and delivery registration ranges from 10.9 to 68.1%. Likewise in Côte d'Ivoire only 77% of mothers and 70% of infants received ARV. The majority of LTFU occurs after delivery(7,10).

Mothers with no partner involvement in PMTCT program is linked with significantly high risk of infant

death, infant HIV infection or LTFU among mother-infant pair(14). Though in our study majority of partners of mothers didn't received HIV testing and counseling services; as part of PMTCT (around 87%). Momentous missed opportunities among partners.

The major reasons for LTFU includes late antenatal attendance among pregnant mothers, low utilization of delivery services, poor follow-up from health care providers, poor defaulter tracing, inadequate supply of program resources (skilled man power, drugs and test kits) and low male partner involvement(5–11).

This is similar to the reasons reported by health care managers, program implementers and program clients of public hospital. They reported that there is shortage and inconsistent supply of program resources like test kits and OI drugs (cotrimoxazole) and partographs.

Further health care providers underlined shortage of skilled human resource resulting in missed opportunity by program clients. And program clients (HIV+ mothers) emphasized on long waiting time (up to 1 hour and 30 minutes), lack of privacy of examination rooms and inaccessibility of services as barrier to retention in care.

Conclusion

In summary there is significant LTFU rate in the antepartem and intrapartem continuum of PMTCT option B+ services in public hospitals of Illubabor zone threatening effectiveness of the program. So adequate program resources should be supplied consistently, acceptable level of health care providers should be trained, defaulter tracing mechanism should be established and regular supportive supervision should be conducted.

Moreover a due emphasis should be given to privacy of service rooms and waiting time; for the fact that program clients needs assurance of this conditions to retain in care.

Competing interest

There is no any competing interest among authors.

Author's contribution

All authors have significance contribution for this paper.

Acknowledgments

We acknowledge Jimma University for funding this evaluation. We also greatly express our gratitude for Oromia region Health bureau for providing technical support for the implementation of the evaluation project. Further our deepest thank goes to all participants of the evaluation particularly HIV+ mothers for their devoted time and uninterrupted participation.

Endnotes

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Illustrations and Figures

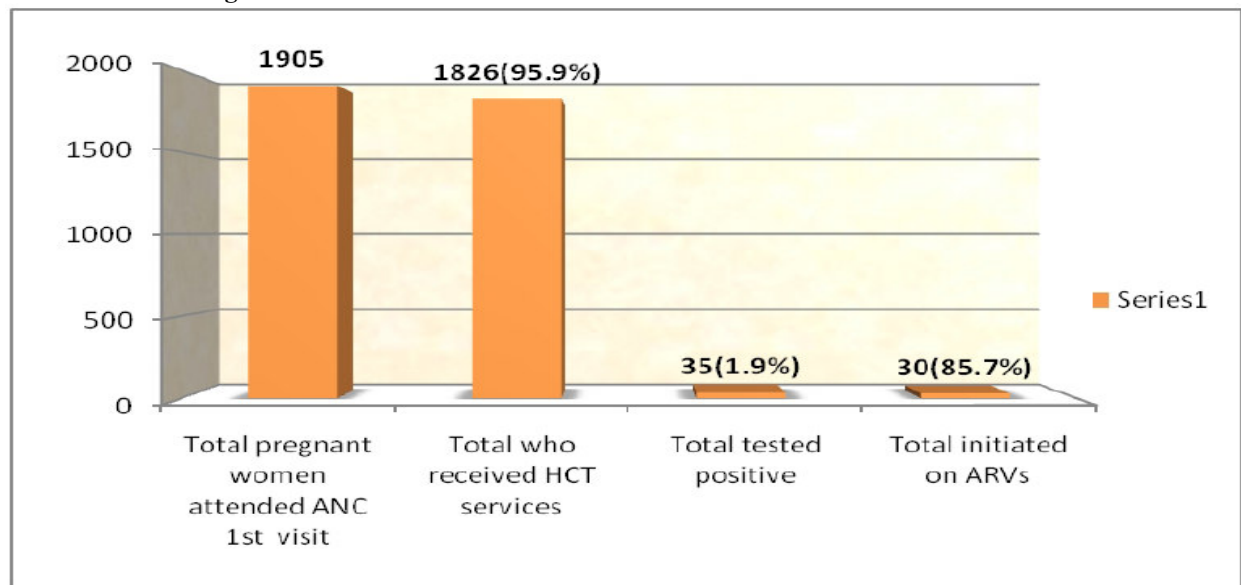


Figure 1. LTFU rates among program clients in the Antepartem continuum of care in public hospitals of Illubabor zone, Western Ethiopia.

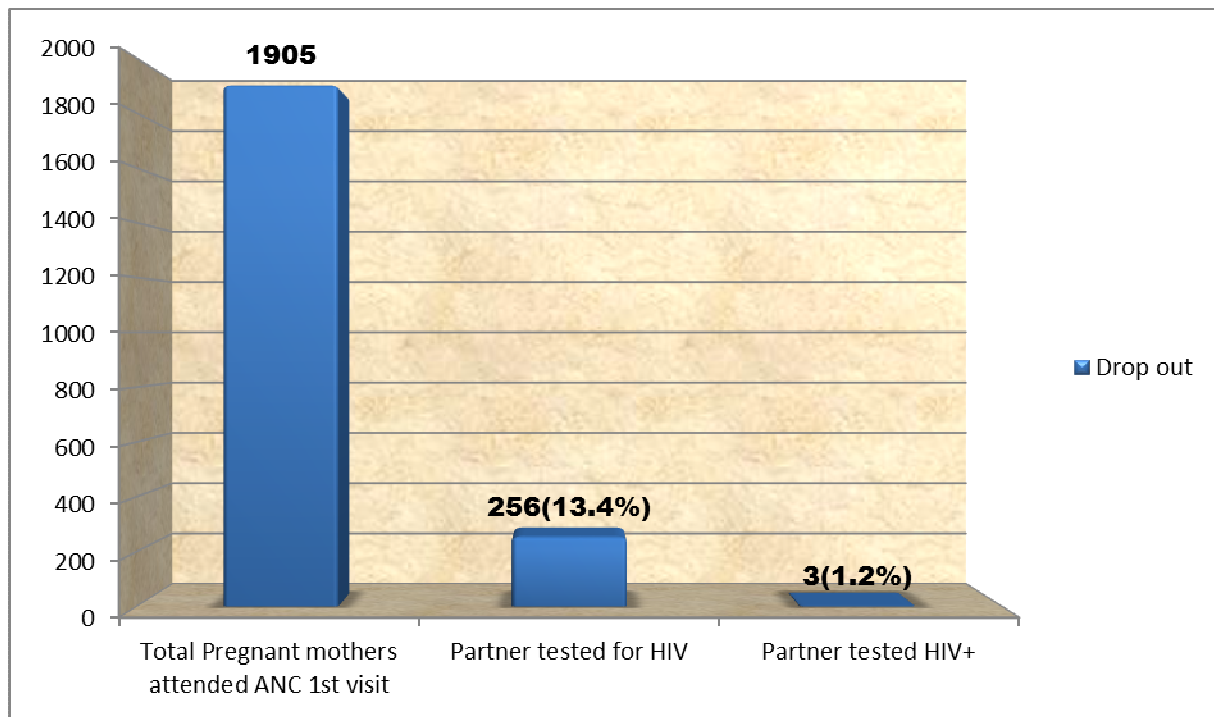


Figure 2. Missed opportunities among partners in testing and counseling in public hospitals of Illubabor zone, Western Ethiopia.

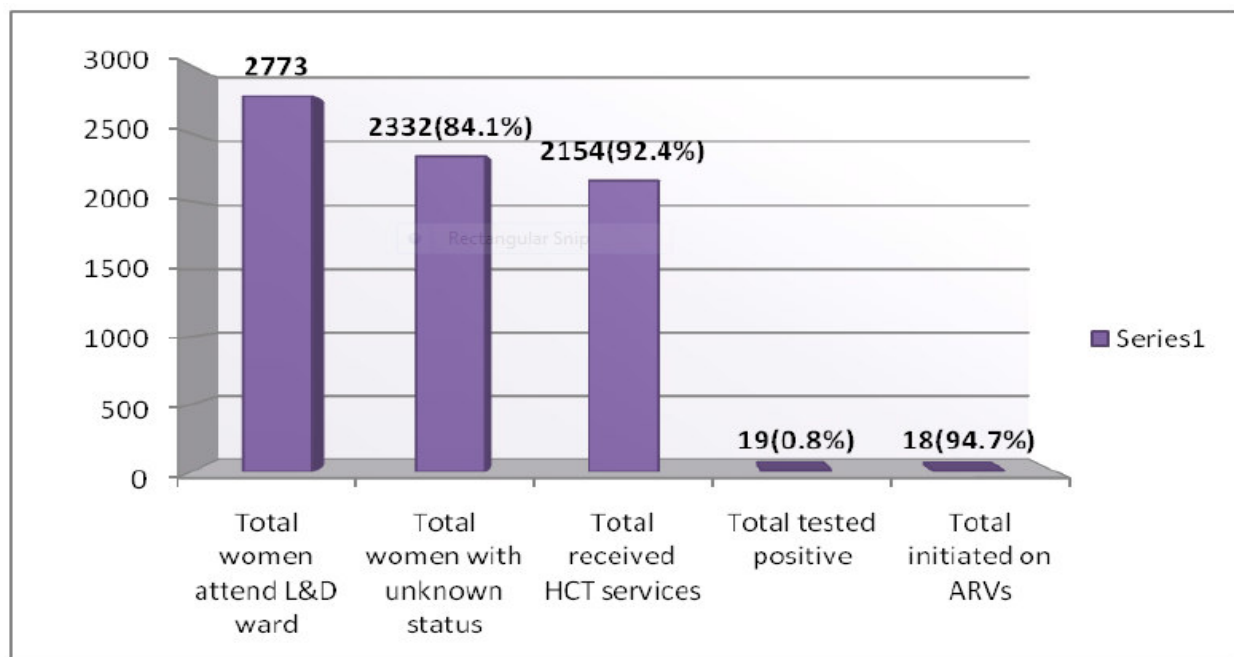


Figure 3. LTFU rates among program clients in the intrapartem continuum of care of public hospitals of Illubabor zone, Western Ethiopia.

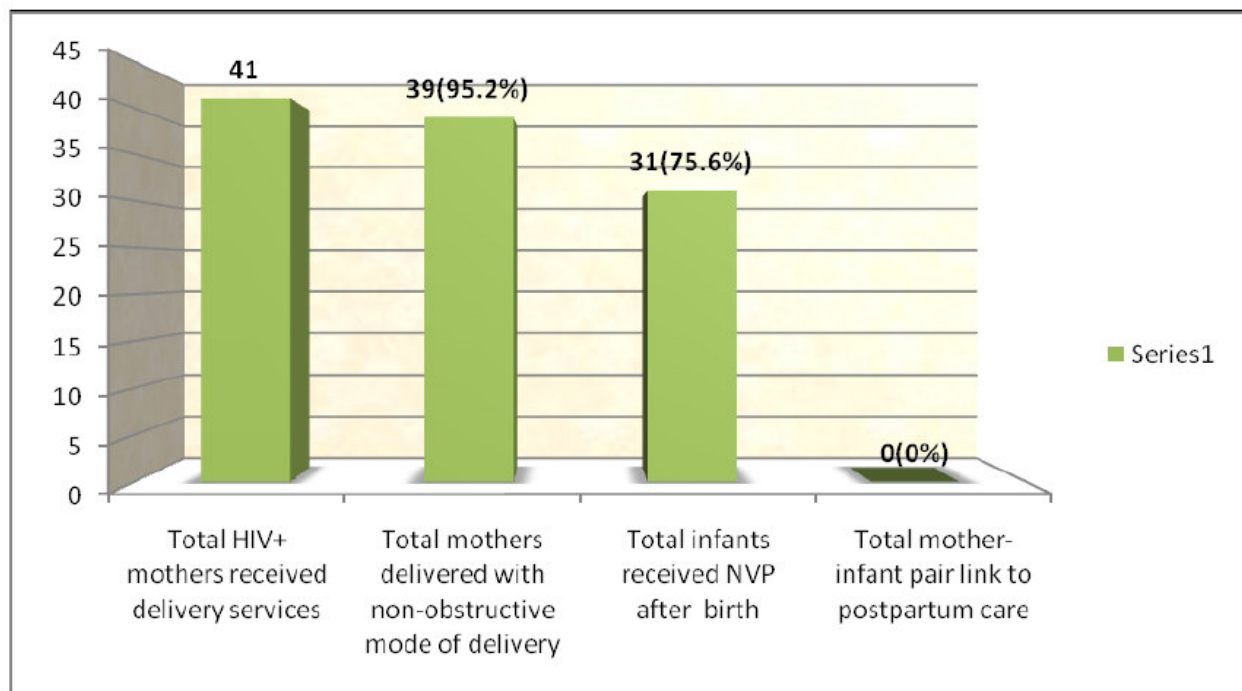


Figure 4. Dropout rates in the intrapartem continuum of care among mother-infant pair in public hospitals of Illubabor zone (birth to linkage).